Attorney's Docket No. 001580-504

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of	
Bas Ording et al.	Group Art Unit: 2179
Application No.: 09/467,074	Examiner: Xiomara L. Bautista
Filed: December 20, 1999	Appeal No.:
For: USER INTERFACE FOR PROVIDING CONSOLIDATION AND ACCESS	

BRIEF FOR APPELLANT

Mail Stop APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This appeal is from the decision of the Primary Examiner dated July 23, 2004 (Paper No. 27), finally rejecting claims 1-5, 9-22, 24-28, 31, 32, 35-38, 42-64, 67, 68, 71, 72, 74, 76, 79-100, 103, 104, 107, 108, 118-123 and 126-141, which are reproduced in Appendix A to this brief.

A check covering the required Government fee was previously submitted with the Brief filed on May 24, 2004. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. §§1.16, 1.17, and 1.21 that may be required by this paper, and to credit any overpayment, to Deposit Account No. 02-4800.

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I. Real Party in Interest

The present application is assigned to Apple Computer, Inc., as recorded in the files of the Patent and Trademark Office at Reel 010852, Frame 0025.

II. Related Appeals and Interferences

There are no other prior or pending appeals, interferences or judicial proceedings known to Appellants, their legal representative, or the assignee, which may be related to, directly affect, or be directly affected by, or have a bearing on, the Board's decision in this appeal.

III. Status of Claims

The application contains 141 claims. Of these, claims 23 and 73 have been canceled, and all other claims are currently pending. Claims 109-117 have been allowed, and claims 6-8, 29, 30, 33, 34, 39-41, 65, 66, 69, 70, 75, 77, 78, 101, 102, 105, 106, 124 and 125 have been identified as containing allowable subject matter, but are objected to as being dependent upon a rejected base claim. Claims 1-5, 9-22, 24-28, 31, 32, 35-38, 42-64, 67, 68, 71, 72, 74, 76, 79-100, 103, 104, 107, 108, 118-123 and 126-141 stand finally rejected. All finally rejected claims are being appealed.

IV. Status of Amendments

No amendments were filed subsequent to the final Office Action dated July 23, 2004.

V. Summary of the Claimed Subject Matter

The claims are directed to a graphical user interface for computer systems, such as personal computers, and more particularly to a mechanism that enables a user to access any of a variety of different resources such as application programs, files, folders, etc. Such access is commonly provided by icons that are displayed on the desktop of the computer display. Figures 1-3 illustrate examples of known techniques for arranging the icons in a manner that provides the user with access to desired resources in the computer system. Specifically, Figure 1B illustrates a "desk drawer" 30 that opens from the bottom of the

display, to provide access to icons 41, 42, 51 and 59 via a cursor 50. In Figure 2, access to resources are provided by means of buttons in a taskbar 220 located at the bottom of the display. Figure 3 illustrates an example of an icon dock 300 arranged along the right side of the display.

In each of these examples, it can be seen that the user access elements, e.g., icons or buttons, are linearly arrayed along one edge of the display. If this linear array is to be maintained, a limitation is placed upon the number of access elements that can be included within the desk drawer, taskbar or dock. To increase the number of elements, it is of course possible to reduce their individual sizes, so that more elements can be placed along the edge of the display. However, there is a practical limit to the size reduction, beyond which the user is unable to ascertain the image and/or text associated with the element. At such point, the elements cease to serve their intended function, since the user is no longer able to determine which element to select for a desired resource. (Page 5, line 4 to page 7, line 8).

To overcome this limitation, the present invention provides user interface functionality that is responsive to the position of a cursor to selectively magnify icons or other resource access elements that are linearly arrayed on the display. Referring to the example of Figure 6, a userbar 600, e.g., a dock, contains a number of tiles 620, 630, 640 that are arrayed along the bottom of the display. (Page 14, lines 1-23). Each tile can have a label associated with it, which appears when the cursor 610 moves into a region associated with that tile, as depicted for the "Clock" tile in Figure 6. (Page 15, lines 9-22).

Figure 6 illustrates the "fisheye" effect of the present invention. The tiles are normally displayed in the userbar 600 at a default height, e.g., 64 pixels, as represented by the end tiles 630 and 640. However, when the cursor 610 is located in a region associated with a given tile, the size of that tile is magnified, so that it is larger than the surrounding tiles in the userbar 600, as represented by the "Clock" tile. (Page 16, lines 14-29). In addition, surrounding tiles are magnified by an amount which is based upon their relative distance to the cursor position. Thus, the two tiles immediately adjacent the "Clock" tile are slightly smaller in size than the "Clock" tile itself, progressing down to the default height for the tiles which are furthest from the cursor. (Page 17, lines 1-11). As the user

moves the cursor across the userbar, different tiles are selectively magnified in a dynamic manner. Thus, Figure 7 illustrates a situation in which the user has moved the cursor 610 to the right, as a result of which the "Clock" tile and its surrounding tiles have become reduced in size, whereas the tiles closest to the cursor have been increased in size. Moving the cursor away from the userbar causes all of the tiles in the userbar to return to the default size. (Page 17, line 22 to page 8, line 5).

The selective magnification of tiles is accompanied by linear translation, so that all of the tiles in the userbar maintain their relative position to one another, and no tile is obscured by an adjacent magnified tile. Figure 8A illustrates the situation in which the cursor 610 is not within the region of any of the tiles, so that they are all displayed at the default height h. When the cursor is brought into the vicinity of one of the tiles, that tile is magnified to a maximum height H, which can be user-selectable. In addition, the other tiles which are proximate the given tile and within a user-selectable distance of the cursor, known as the effect width W, are also magnified in size. The magnification of these other tiles can be inversely proportional to their distance from the cursor, e.g. in accordance with a sine function. Along with the magnification, the other tiles on either side of the given tile move outwardly to accommodate the increased sizes of the magnified tiles, as represented in Figure 8D. (Page 18, line 10 to page 19, line 30).

As a result of this functionality, the selective magnification of the tiles, in accordance with the position of the cursor, permits a significantly larger number of objects to be included within the userbar, while at the same time giving the user the ability to readily view and identify any desired tile, to access the resource associated with that tile. (Page 17, lines 12-21).

VI. The Grounds of Rejection

The final Office Action presents the following grounds of rejection:

1. Claims 1-5, 9, 10, 12-15, 20, 21, 25-27, 35-38, 42-46, 48-51, 56, 57, 61-63, 71, 74, 76, 79-82, 84-87, 92, 93, 98, 99, 107, 118-123 and 127-141 are rejected as being unpatentable under 35 U.S.C. § 103 over the Selker patent (U.S. Patent No. 5,736,974)

when considered in view of the Carpendale et al. publication entitled "Distortion Viewing Techniques for Three-Dimensional Data";

2. Claims 11, 16, 17, 22, 24, 47, 52, 53, 58-60, 72, 83, 88, 89, 94-97, 108 and 126 are rejected as being unpatentable under 35 U.S.C. § 103 over the Selker and Carpendale references, in further view of the Malamud et al. patent (U.S. Patent No. 5,825,357);

3. Claims 18, 19, 54, 55, 90 and 91 are rejected as being unpatentable under 35 U.S.C. § 103 over the Selker and Carpendale references, in further view of the Ludolph et al. patent (U.S. Patent No. 5,657,049); and

4. Claims 28, 31, 32, 64, 67, 68, 100, 103 and 104 are rejected as being unpatentable under 35 U.S.C. § 103 over the Selker and Carpendale references, in further view of the Mackinlay et al. patent (U.S. Patent No. 6,256,649).

For purposes of this appeal, the first ground of rejection is of primary focus, and the second ground of rejection is discussed with respect to selected claims. The third and fourth grounds of rejection are not separately addressed.

VII. Argument

A. There Is No Reason To Combine The Teachings Of The Primary References

All of the finally rejected claims were rejected under 35 U.S.C. §103, as being unpatentable over the Selker patent in view of the Carpendale et al. publication, either by themselves or in combination with other references. With respect to independent claims 1, 35, 71, 107, 118, 136 and 139, the final Office Action states that the Selker patent discloses a method for improving visibility and selectability of icons, by increasing size and/or skew of one or more icons in a generally inverse relation to proximity of a cursor. The Action acknowledges, however, that the Selker patent does not teach repositioning other icons along a menu to accommodate the varied size of one icon. In this regard, the Action states that the Carpendale publication discloses distortion viewing techniques for 3-dimensional data that apply magnification and distortion, in which a chosen focus is magnified to display

detail, and neighbors are repositioned to accommodate the focal object. The statement of rejection concludes:

> Therefore, it would have been obvious to one ordinarily skilled in the art at the time the invention was made to modify Selker to include Carpendale's teaching of repositioning neighboring objects to accommodate other tiles having different sizes and to magnify the focus because the invention helps to improve visibility of desired objects, it improves user's ability to select items from large menus, it provides a focus area around the pointer, it allows an entire menu on a single screen without requiring navigation, scrollbars, cascading menus, etc.

This statement of rejection does not meet the requirements for a proper rejection under 35 U.S.C. §103. MPEP §706.02(j) sets forth the elements for a rejection under 35 U.S.C. §103. The last of these elements is:

(D) an explanation of why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification. With respect to this required element of a rejection, the MPEP goes on to state:

> [T]here must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings... The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure.

This criterion is not met by the disclosures of the Selker and Carpendale references, and hence there is no motivation to combine their teachings.

The Teachings of the References

The Selker patent is directed to a graphical user interface for a computer. Referring to Figure 1, it discloses a menu 30 containing a one-dimensional array of icons. The patent is particularly concerned with the tradeoffs between required display area and ease of user visibility when a large number of icons are to be displayed. To address this concern, the patent discloses a technique wherein the distance between the icon menu 30 and a cursor 20 is computed, and when the vertical component of this distance falls below a threshold level, the icon closest to this cursor is identified. The display of this nearest icon is then

increased in size, as depicted in Figure 2. As the cursor is moved closer to the icon menu, the size of the identified icon is increased by a greater amount, as illustrated in Figure 3a.

In contrast, the Carpendale publication is not directed to the components of a graphical user interface, such as an icon menu. Rather, it is particularly directed to techniques for viewing data that is displayed in a *three-dimensional* representation. The following passage from page 46, right column, second full paragraph, is illustrative of the environment to which the Carpendale publication is directed:

> Inherent in working with data in 3D is the fact that some data will be buried within a structure, whether a solid model or a complicated 3D graph layout, and hence visually inaccessible. Previous work provides access to the internal details of such structures through the use of cutting planes, layer removal and transparency. We describe a novel solution to this problem of *internal access* with the introduction of a distortion function which creates a clear line of sight to a focus revealing sections that had been *previously obscured*. (emphasis added)

From this passage, it can be seen that the Carpendale publication is concerned with the user's ability to view data that is *hidden* from view in a three dimensional arrangement. The publication describes the use of a distortion function to create a "clear line of sight" to buried data that had been "previously obscured." In essence, the purpose of the distortion function is to move the data in the outer layers of the 3D representation out of the way, so that inner data can be viewed.

Lack of Relationship Between References

The icon menu of the Selker patent does not exhibit the type of problem to which the Carpendale publication is directed. This is due to the fact that the icons are arranged in a one-dimensional array. They are all visible to, and accessible by, the user at all times, and hence there is no problem of "buried" internal data that is hidden from the view of the user. There is no need to employ a distortion function to move some of the external items out of the way in order to view "obscured" items, as in the case of the hidden three-dimensional data described in the Carpendale publication.

It is noted that, in addition to three-dimensional data, the Carpendale publication describes distortion functions that are applied to two-dimensional data (Figure 1) and one-dimensional data (Figure 6). In all three cases, however, the purpose behind the distortion is to enable detailed information to be displayed within its global context. See the first two paragraphs of the "Introduction" section on page 46 of the publication.

There is no teaching in either of the references which suggests that this objective is applicable to the presentation of menus or other collections of icons in a graphical user interface for personal computers. Typically, items in a menu might all pertain to a general category, but the order of presentation within that category is irrelevant. In other words, when a user desires a particular item from a menu, he is not concerned with which other items are near the item of interest in the menu, he is only focused upon the item of interest. Thus, in an icon menu of the type described in the Selker patent, the context of the individual icons is not important. As such, the objective of the Carpendale publication does not apply.

Since the Carpendale publication is directed to problems that are not present within the icon menu of the Selker patent, there is no apparent reason *why* a person of ordinary skill in the art, who is designing a graphical user interface of the type taught in the Selker patent, would be at all motivated to look to the teachings of the Carpendale publication. In an effort to address this question, the Office Action states that it would be obvious to combine the references "because *the invention* helps to improve visibility of desired objects..." (emphasis added). By referring to the advantages of "the invention", it is clear that the examiner is relying upon the Applicants' own teachings as motivation for the combination. The Office Action does not identify any statements in either of the *references* which support the contention of obviousness. The Carpendale publication says nothing about selecting items from large menus, providing a focus area around a pointer, or providing an entire menu on a single screen without navigation, scrolling or cascading. That is because it has nothing to do with graphical user interface elements such as menus and icons.

In response to Appellants' previous arguments along these lines, the final Office Action contains statements such as:

> Carpendale teaches a graphical user interface (environment that represents programs, files, and options by means of icons, menus, and dialog boxes on the screen; the user can select and activate options by pointing and clicking with a mouse and/or a keyboard)...

(See the paragraph bridging pages 4 and 5 of the Action.) However, the Action does not identify a single passage in the reference which supports this assertion. In fact, there are none. It is respectfully submitted that the rejection is based upon a mischaracterization of the reference.

There is simply no reason to consider the Carpendale publication when faced with the design of icon menus of the type disclosed in the Selker patent, absent knowledge of the Appellants' invention. The Office Action has not shown any teaching or suggestion *in the prior art* to combine the references, as required by the MPEP. Consequently, it does not meet the requirements for a *prima facie* case of obviousness.

B. Claims 5, 38 and 74

Even if the teachings of the Selker patent and the Carpendale publication could somehow be combined, and sufficient motivation for doing so existed, a number of the features recited in the claims are still not taught by the references. For example, claim 5 recites that the processor "repositions said *others* of said plurality of tiles" in accordance with a predefined relationship between an effect width W, a default height h and a selected maximum height H. Claim 38 recites similar subject matter, and claim 74 recites this relationship as applied to magnification, rather than repositioning. The rejection of these claims refers to Selker's teaching of applying the Pythagorean theorem to the distances between an icon and a cursor. However, this teaching has nothing to do with repositioning icons since, as acknowledged in the rejection of claim 1, Selker does not contain any teaching to this effect. Furthermore, it does not suggest that other icons, i.e., those other than the one being resized due to its proximity to the cursor, should be repositioned in accordance with those factors. Finally, the disclosed use of a Pythagorean theorem to calculate the distance between a cursor and an icon does not suggest any of the three factors recited in the rejected claims, namely an effect width, a default height or a maximum

height. There is no teaching in the Selker patent that supports the rejection of claims 5, 38 or 74.

C. Claims 12-15, 24, 43, 44, 48-51, 60, 76, 79, 80, 84-87, 96, 122, 132 and 134

Claim 12 recites a user selection function for permitting a user to select a value of at least one characteristic of the tile bar, and claims 13-15 specify various user-selectable characteristics. Similar concepts are recited in claims 24, 43, 44, 48-51, 60, 76, 79, 80, 84-87, 96, 122, 132 and 134. In connection with these claims, the Office Action refers to column 9, lines 29-35 of the Selker patent. However, this portion of the patent does not state that the value for an attribute of the bar is user selectable. Rather, to the extent that selectivity is suggested, it is disclosed as being dependent upon "the enhancement mode determined by the operational state of the application." In other words, it is the operating mode of the application program which determines the size or skew timing. There is no disclosure that the user has any role in the selection. Accordingly, the subject matter of any of the claims which recite *user* selectability is not suggested by the Selker patent.

In addition to this fundamental distinction, the Selker patent does not teach user selectability of the specific attributes set forth in claims 13-15 and other claims that recite similar concepts. For instance, claim 13 recites that the maximum size to which a tile can be enlarged is a user-selectable characteristic. In connection with this claim, the Office Action refers to column 8, lines 55-60 of the Selker patent. However, this portion of the patent states that the size factor can be limited "by the application." There is no indication that the user has the ability to select a maximum size.

Claim 14 recites that the default size for the tiles is user selectable. The portions of the Selker patent identified in the rejection of this claim (column 6, lines 60 to column 7, line 26) do not suggest such a feature. Rather, they relate to the behavior of an icon in response to movement of the cursor. They do not have anything to do with user selectability.

Claim 15 recites that the effect width, i.e. the distance to either side of the cursor that determines which tiles will be scaled, is user selectable. The rejection of this claim points to portions of the Selker patent which state that an icon can be expanded to any arbitrary size. However, the expanded size of an icon has nothing to do with effect width, as that concept is defined in the context of the present invention. In fact, the Selker patent only discloses that individual icons are scaled, rather than a range of icons within a certain distance of the cursor. As such, it cannot be deemed to suggest the user selectability of such a distance, as recited in claim 15, and corresponding claims 51, 87, 122 and 132.

In responding to Appellants arguments pertaining to each of claims 13-15, the final Office Action states "In any computer use or application, selections are always made by a user." (page 5, penultimate line). This statement does not support the rejection of the claims. Even if it is generally accepted that users make selection during the operation of a computer, or even more specifically that many user interfaces permit the user to set preferences or options, the Office Action does not identify any teaching in the prior art suggesting that the *specific* characteristics recited in claims 13, 14 and 15 should be user-definable. The same argument applies to the characteristics recited in the other claims of this group that recite specific user-definable characteristics.

D. Claims 21, 57 and 93

Claim 21 recites that the plurality of tiles occupy multiple rows on the display. Claims 57 and 93 recite a similar concept. The rejection of these claims contains a general reference to Figures 1-25 of the Carpendale publication. However, none of these figures relate to elements of a user interface, such as icons or tiles on a bar. This reference can not be interpreted to suggest the subject matter of claims 21, 57 or 93.

E. Claims 121 and 131

Independent claim 118 recites that one icon in the vicinity of the cursor is magnified, and claims 119 and 120 recite that other icons proximate the one icon are also magnified. Claim 121 recites that the other icons that are magnified are those which are within a defined distance of the cursor. As discussed above in Section VIII.C., this distance is called the effect width in the context of the present invention.

The rejection of claim 121, and corresponding claim 131, refers to the Selker patent at column 5, lines 19-33 (Office Action at page 15). Neither this portion of the patent, nor any other portion thereof, discloses the concept of determining which icons to scale, other than the one closest to the cursor, based upon whether they are within a defined distance of the cursor. Rather, the Selker patent only discloses that an individual icon is expanded, not a range of icons that lie within a given distance of the cursor.

The subject matter of claims 121 and 131 is not suggested by the Selker patent.

F. Claims 128, 138 and 141

Claims 128, 138 and 141 are directed to an aspect of the invention wherein the tile, or icon, closest to the cursor is magnified to a maximum defined height when the cursor enters the userbar region. This aspect of the invention is depicted in Figures 8a-8d, and described on pages 16-19 of the application. As best illustrated in Figure 8d, when the cursor 610 enters the userbar region, the icon located directly beneath the cursor is magnified to the maximum height H, and the icons on either side of it are scaled by a lesser amount, in dependence upon their distance from the cursor. If the cursor is located at the interface of two icons, both of those icons may be scaled to the maximum height H.

In contrast, the Selker patent discloses an arrangement in which the size of the icon is increased in a generally inverse relation to the proximity of the cursor. As can be seen in Figures 1-3a, for example, as the distance between the cursor 20 and the icon menu 30 decreases from d=8 to d=4, the size of the icon 40 increases. Consequently, the icon does not reach its maximum size until it has actually "captured" the cursor. Even then, as the

cursor continues to move towards the icon menu 30, the selected icon can continue to grow. See column 5, line 65 to column 6, line 5.

Claim 128 recites that the height of at least one of the items closest to the cursor is increased "*from* said default height *to* a fixed maximum level *upon detecting that the cursor is within said threshold distance* . . ." The claim further recites that the item is maintained at this height when the cursor is within the threshold distance. In the Selker patent, the size of the icon does not increase *from* the default size *to* the maximum size upon detecting that the cursor is within the threshold distance, e.g. d = 8. Rather, as illustrated in Figure 1 of the patent, the size of the icon only increases to an intermediate value when the cursor is at this distance. In order for the icon to be increased to its maximum size, the user must continue to bring the cursor closer to the icon.

Thus, while the icon eventually reaches a maximum size, it does not do so by being magnified from its default size "upon detecting that the cursor is within said threshold distance" and then maintained at that size, as recited in claim 128. Rather, such a detection only causes the icon to be magnified an amount that is inversely related to its distance from the cursor. Increasing the icon to its maximum size requires further movement of the cursor by the user. Hence, scaling to maximum size is not automatically achieved by detecting that the cursor has come within the threshold distance.

The final rejection of claims 128, 138 and 141 states "Selker teaches that the size of a menu item is expanded in inverse proportionate relationship to the proximity of the cursor from a default height (e.g., h) to a fixed maximum level. For example, when distance = 8, height = h+1; when distance = 4, height = h+2; when distance = 2, height = maximum level." This explanation does not address the subject matter recited in the *claim*. Specifically, claim 128 says that the height of one of the items is increased from the default height to a fixed maximum level "upon detecting that the cursor is within said threshold distance." The claim goes on to recite the step of "maintaining said height at said fixed level while said cursor is equal to or less than said threshold distance from said one item." The explanation provided in the Office Action does not equate to the claim recitation. To illustrate, if the threshold distance is equal to 8, the size of the menu icon does not increase from the default height h to the maximum level. Rather, it only goes from h to h+1.

Thereafter, if the cursor is moved closer, the height of the icon is not maintained at that level. Rather, it continues to increase.

Conversely, if the threshold distance is 2, the size of the menu icon does not increase "from" the default height h to the maximum height. Rather, it starts from the height of the prior level, e.g. h+2. The Selker patent does not contain any teaching that the size of an icon increases from the default size to the maximum size "upon detecting that the cursor is within said threshold distance."

G. Claim 72

Independent claim 71 recites a plurality of items which each have an associated default height. Claim 72 depends from claim 71 and recites that the items are displayed at the default height unless they exceed a predetermined number, in which case the plurality of items are scaled, e.g., reduced in size. The rejection of claim 72 relies upon the Malamud patent, particularly its reference to a minimum size requirement (column 10, lines 54-60). However, this teaching does not suggest the subject matter of claim 72. Rather, the Malamud patent teaches that a minimum amount of space is required to dock an application, and if that amount is not available, the docking of an application is prevented. Thus, unlike the method recited in claim 72, the Malamud patent does not accommodate additional items by scaling them in size. Rather, it precludes the addition of more items beyond a certain point.

Accordingly, the subject matter of claim 72 is not suggested by the Malamud patent, even when considered with the Selker and Carpendale references.

VIII. Conclusion

In summary, the final Office Action has failed to meet all of the requirements for a *prima facie* case of obviousness. Furthermore, it does not provide an adequate showing that specific features of a number of the claims are taught by the references. The rejections of the claims are not properly founded in the statute, and should be reversed.

Respectfully submitted,

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APPENDIX A

The Appealed Claims

1. A computer system comprising:

a display;

a cursor for pointing to a position within said display;

a bar rendered on said display and having a plurality of tiles associated therewith; and

a processor for varying a size of at least one of said plurality of tiles on said display when said cursor is proximate said bar on said display and for repositioning others of said plurality of tiles along said bar to accommodate the varied size of said one tile.

2. The computer system of claim 1, wherein each of said plurality of tiles represents an object with which a user of said computer system can interact.

3. The computer system of claim 2, wherein said objects include at least one of: applications, documents, windows and uniform resource locators.

4. The computer system of claim 1, wherein said at least one of a plurality of tiles includes a tile to which said cursor is closest and a plurality of tiles adjacent to said tile.

5. The computer system of claim 1, wherein said processor repositions said others of said plurality of tiles in accordance with a predefined relationship between an effect width W, a default height h of said at least one of said plurality of tiles and a selected maximum height H of said at least one of said plurality of tiles.

6. The computer system of claim 5, wherein said predefined relationship includes a function S defined as:

$$S = ((H - h) \div 2) \div \text{sine}(\pi \times (h \div 2) \div (W \times 2))$$

7. The computer system of claim 6, wherein said others of said plurality of tiles each has a left edge and a right edge located at distances d_1 and d_2 from said cursor, and is moved to a position such that said left edge has a distance d_1' from said cursor and said right edge has a distance d_2' from said cursor wherein:

$$d_1' = S \times \text{sine}(\pi \div 2 \times d_1 \div W)$$

$$d_2' = S \times \text{sine}(\pi \div 2 \times d_2 \div W).$$

8. The computer system of claim 7, wherein said at least one of said plurality of tiles is scaled by a factor of:

$$1 + (d_2' - d_1') \div (d_2 - d_1).$$

9. The computer system of claim 1, wherein said processor varies the size of at least some of said others of said plurality of tiles based on a sine function.

10. The computer system of claim 1, wherein said bar is rendered at a bottom of said display.

11. The computer system of claim 10, wherein there is a gap between said bar and said bottom of said display.

12. The computer system of claim 1 further comprising:

a user selection function for permitting a user to select a value of at least one characteristic of said bar.

13. The computer system of claim 12, wherein a maximum size to which said at least one of said plurality of tiles can be enlarged is said at least one characteristic.

14. The computer system of claim 12, wherein a default size for said plurality of tiles is said at least one characteristic.

15. The computer system of claim 12, wherein an effect width within which said at least one of said plurality of tiles have varied size is said at least one characteristic.

16. The computer system of claim 1, wherein said processor removes said bar from said display when said cursor moves away from said bar.

17. The computer system of claim 16, wherein said processor removes said bar by invoking an animation routine which makes said bar appear to slide into an edge of said display.

18. The computer system of claim 1, wherein said processor removes said bar by invoking an animation routine which makes said bar appear to slide into an edge of said display in response to at least one keystroke.

19. The computer system of claim 12, wherein a setting for an autohide capability for said bar is said at least one characteristic.

20. The computer system of claim 1, wherein said plurality of tiles occupy a single row on said display.

21. The computer system of claim 1, wherein said plurality of tiles occupy multiple rows on said display.

22. The computer system of claim 1, wherein two of said plurality of tiles are permanent residents of said bar and define endpoints thereof, and other tiles can be selectively added to and deleted from positions intermediate said two tiles by a user.

23. [Canceled]

24. The computer system of claim 12, wherein a status of objects as permanent or nonpermanent on said bar is said at least one characteristic.

25. The computer system of claim 1, wherein said cursor is proximate said bar when said cursor is positioned on or within a border of one of said plurality of tiles.

26. The computer system of claim 1, wherein said cursor is proximate said bar when said cursor is within a predetermined distance of one of said plurality of tiles.

27. The computer system of claim 1, wherein said processor displays a label associated with said at least one of said plurality of tiles.

28. The computer system of claim 27, wherein said processor displays said label with a first predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from another of said plurality of tiles.

29. The computer system of claim 28, wherein said processor displays said label with a second predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from outside a region associated with said bar.

30. The computer system of claim 29, wherein said first and second fade-in rates are different.

31. The computer system of claim 27, wherein said processor fades out said label when said cursor moves away from said at least one of said plurality of tiles.

32. The computer system of claim 31, wherein said processor uses a first fade out rate when said cursor moves into another of said at least one of said plurality of tiles.

33 The computer system of claim 32, wherein said processor uses a second fade out rate when said cursor moves out of a region associated with said bar.

34. The computer system of claim 33, wherein said first and second rates are different.

35. A computer system comprising:

a display;

a cursor means for pointing to a position within said display;

a userbar rendered on said display and having a plurality of tiles associated therewith; and

a processor means for varying a position of at least one of said plurality of tiles on said display when said cursor is proximate said bar on said display.

36. The computer system of claim 35, wherein each of said plurality of tiles represents an object with which a user of said computer system can interact.

37. The computer system of claim 36, wherein said objects include at least one of: applications, documents, windows and uniform resource locators.

38. The computer system of claim 35, wherein said processor varies said position in accordance with a predefined relationship between an effect width W, a default height h of said at least one of said plurality of tiles and a selected maximum height H of said at least one of said plurality of tiles.

39. The computer system of claim 38, wherein said predefined relationship includes a function S defined as:

$$S = ((H - h) \div 2) \div \text{sine}\ (\pi \times (h \div 2) \div (W \times 2))$$

40. The computer system of claim 39, wherein said at least one of said plurality of tiles has a left edge and a right edge and wherein said at least one of said plurality of tiles is moved to a position such that said left edge has a distance d_1' from said cursor and said right edge has a distance d_2' from said cursor wherein:

$$d_1' = S \times \text{sine}\ (\pi \div 2 \times d_1 \div W)$$

$$d_2' = S \times \text{sine}\ (\pi \div 2 \times d_2 \div W)$$

41. The computer system of claim 7, wherein said at least one of said plurality of tiles is scaled by a factor of:

$$1 + (d_2' - d_1') \div (d_2 - d_1)$$

wherein d_1 and d_2 are distances from said cursor to said left edge and right edge, respectively, of said at least one of said plurality of tiles prior to being moved to said position.

42. The computer system of claim 35, wherein said processor also varies a magnification of said at least one of said plurality of tiles.

43. The computer system of claim 42 further comprising:

means for permitting a user to select a magnitude of said magnification.

44. The computer system of claim 35, wherein said plurality of tiles have a default size which can be set by said user.

45. The computer system of claim 43, wherein said magnification of said at least one of said plurality of tiles is varied based on a sine function.

46. The computer system of claim 35, wherein said userbar is rendered at an edge of said display.

47. The computer system of claim 46, wherein there is a gap between said userbar and said edge of said display.

48. The computer system of claim 35 further comprising:

a user selection means for permitting a user to select a value of at least one characteristic of said userbar.

49. The computer system of claim 48, wherein a maximum size to which at least another of said plurality of tiles can be enlarged is said at least one characteristic.

50. The computer system of claim 48, wherein a default size for said plurality of tiles is said at least one characteristic.

51. The computer system of claim 48, wherein an effect width within which at least another of said plurality of tiles have varied size is said at least one characteristic.

52. The computer system of claim 35, wherein said processor means removes said userbar from said display when said cursor moves away from said userbar.

53. The computer system of claim 52, wherein said processor means removes said userbar by invoking an animation routine which makes said userbar appear to slide into an edge of said display.

54. The computer system of claim 35, wherein said processor means removes said userbar by invoking an animation routine which makes said userbar appear to slide into an edge of said display in response to at least one keystroke.

55. The computer system of claim 48, wherein a setting for an autohide capability for said userbar is said at least one characteristic.

56. The computer system of claim 35, wherein said plurality of tiles occupy a single row on said display.

57. The computer system of claim 35, wherein said plurality of tiles occupy multiple rows on said display.

58. The computer system of claim 35, wherein at least two of said plurality of tiles are permanent residents of said userbar.

59. The computer system of claim 58, wherein said at least two of said plurality of tiles establish a left and right end for said userbar.

60. The computer system of claim 48, wherein a status of objects as permanent or nonpermanent on said userbar is said at least one characteristic.

61. The computer system of claim 35, wherein said cursor is proximate said userbar when said cursor is positioned on or within a border of one of said plurality of tiles.

62. The computer system of claim 35, wherein said cursor is proximate said userbar when said cursor is within a predetermined distance of one of said plurality of tiles.

63. The computer system of claim 35, wherein said processor means displays a label associated with said at least one of said plurality of tiles.

64. The computer system of claim 63, wherein said processor means displays said label with a first predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from another of said plurality of tiles.

65. The computer system of claim 64, wherein said processor means displays said label with a second predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from outside a region associated with said userbar.

66. The computer system of claim 65, wherein said first and second fade-in rates are different.

67. The computer system of claim 63, wherein said processor means fades out said label when said cursor moves away from said at least one of said plurality of tiles.

68. The computer system of claim 67, wherein said processor means uses a first fade out rate when said cursor moves into another of said at least one of said plurality of tiles.

69. The computer system of claim 68, wherein said processor means uses a second fade out rate when said cursor moves out of a region associated with said bar.

70. The computer system of claim 69, wherein said first and second rates are different.

71. A method for displaying items in a graphical user interface comprising the steps of:

providing a plurality of said items in a region of said graphical user interface, each of said items having a default height associated therewith;

moving a cursor along said region; and

selectively magnifying at least one of said items closest to said cursor to a first level and magnifying items proximate to said one item to other levels less than said first level.

72. The method of claim 71, further comprising the steps of:

displaying said plurality of items in said region at said default height unless said plurality of items exceeds a predetermined number; and

scaling said plurality of items when said plurality of items exceeds said number.

73. [Canceled]

74. The method of claim 71, wherein said step of magnifying further comprises magnifying said items in accordance with a scaling factor S, wherein S is a predefined

relationship between an effect width W, said default height h and a selected maximum height H of said items.

75. The method of claim 74, wherein said predefined relationship is:

$S = ((H - h) \div 2) \div \text{sine} (\pi \times (h \div 2) \div (W \times 2))$.

76. The method of claim 71, further comprising the step of:

setting, by a user, said first level of magnification.

77. The method of claim 75, wherein said plurality of items have a left edge and a right edge respectively located at distances d_1 and d_2 from said cursor, and wherein each of said proximate items is moved to a position such that its left edge has a distance d_1' from said cursor and its right edge has a distance d_2' from said cursor wherein:

$d_1' = S \times \text{sine} (\pi \div 2 \times d_1 \div W)$

$d_2' = S \times \text{sine} (\pi \div 2 \times d_2 \div W)$.

78. The method of claim 77, wherein said at least one of said plurality of items is scaled by a factor of:

$1 + (d_2' - d_1') \div (d_2 - d_1)$

79. The method of claim 71 further comprising the step of:

permitting a user to select a magnitude of said first level of magnification.

80. The method of claim 71, wherein said plurality of items have a default size which can be set by a user.

81. The method of claim 71, wherein said magnification of said at least one of said plurality of items is varied based on a sine function.

82 The method of claim 71, wherein said region is proximate a bottom of said graphical user interface.

83. The method of claim 82, wherein there is a gap between said region and said bottom of said graphical user interface.

84. The method of claim 71 further comprising the step of:

permitting a user to select a value of at least one characteristic of said region.

85. The method of claim 84, wherein a maximum size to which at said at least one of said plurality of items can be enlarged is said at least one characteristic.

86. The method of claim 84, wherein a default size for said plurality of items is said at least one characteristic.

87. The method of claim 84, wherein an effect width within which said at least one of said plurality of items have varied size is said at least one characteristic.

88. The method of claim 71, further comprising the step of:

removing said plurality of items from said display when said cursor moves away from said region.

89. The method of claim 88, further comprising the step of:

removing said plurality of items by invoking an animation routine which makes said plurality of items appear to slide into an edge of said graphical user interface.

90. The method of claim 71, further comprising the step of:

removing said plurality of items by invoking an animation routine which makes said plurality of items appear to slide into an edge of said display in response to at least one keystroke.

91. The method of claim 84, wherein a setting for an autohide capability for said plurality of items is said at least one characteristic.

92. The method of claim 71, wherein said plurality of items occupy a single row on said graphical user interface.

93. The method of claim 71, wherein said plurality of items occupy multiple rows on said graphical user interface.

94. The method of claim 71, wherein at least two of said plurality of items are permanent residents.

95. The method of claim 94, wherein said at least two of said plurality of tiles establish a left and right end for said plurality of items.

96. The method of claim 84, wherein a status of objects as permanent or nonpermanent within said plurality of items is said at least one characteristic.

97. The method of claim 96, further comprising the step of:

automatically rendering permanent items in said region at startup of said graphical user interface.

98. The method of claim 71, wherein said region extends beyond borders of said items.

99. The method of claim 71, further comprising the step of:

displaying a label associated with said at least one of said plurality of items.

100. The method of claim 99, wherein said step of displaying further comprises the step of:

displaying said label with a first predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of items from another of said plurality of items.

101. The method of claim 100, wherein said step of displaying further comprises the step of:

displaying said label with a second predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of items from outside said region.

102. The method of claim 101, wherein said first and second fade-in rates are different.

103. The method of claim 99, further comprising the step of:

fading out said label when said cursor moves away from said at least one of said plurality of item.

104. The method of claim 103, further comprising the step of:

using a first fade out rate when said cursor moves into another of said at least one of said plurality of items.

105. The method of claim 104, further comprising the step of:

using a second fade out rate when said cursor moves out of said region.

106. The method of claim 105, wherein said first and second rates are different.

107. A computer-readable medium usable for displaying items in a graphical user interface comprising:

means for providing a plurality of said items in a region of said graphical user interface, each of said items having a default height associated therewith;

means for moving a cursor along said region; and

means for selectively magnifying at least one of said items closest to said cursor to a first level and magnifying items proximate to said one item to other levels less than said first level.

108. The computer system of claim 22, wherein said other tiles can be selectively repositioned on said bar relative to one another among said intermediate positions by a user.

109. A computer system comprising:

a display;

a cursor for pointing to a position within said display;

a bar rendered on said display and having a plurality of tiles associated therewith; and

a processor for varying a size of at least one of said plurality of tiles on said display when said cursor is proximate said bar on said display and for varying a position of another of said plurality of tiles in accordance with a predefined relationship that includes a function S defined as:

$$S = ((H - h) \div 2) \div \text{sine}\ (\pi \times (h \div 2) \div (W \times 2)),$$

where W is an effect width, h is a default height of said at least one of said plurality of tiles and H is a selected maximum height of said at least one of said plurality of tiles.

110. The computer system of claim 109, wherein said another of said plurality of tiles has a left edge and a right edge respectively located at distances d_1 and d_2 from said cursor, and wherein said another of said plurality of tiles is moved to a position such that said left edge has a distance d_1' from said cursor and said right edge has a distance d_2' from said cursor wherein:

$$d_1' = S \times \text{sine}\ (\pi \div 2 \times d_1 \div W)$$

$$d_2' = S \times \text{sine}\ (\pi \div 2 \times d_2 \div W).$$

111. The computer system of claim 110, wherein said at least one of said plurality of tiles is scaled by a factor of:

$$1 + (d_2' - d_1') \div (d_2 - d_1)$$

wherein d_1 and d_2 are distances from said cursor to said left edge and right edge, respectively, of said another of said plurality of tiles prior to being moved to said position.

112. A computer system comprising:

a display;

a cursor for pointing to a position within said display;

a bar rendered on said display and having a plurality of tiles associated therewith; and

a processor for varying a size of at least one of said plurality of tiles on said display when said cursor is proximate said bar on said display and displaying a label associated with at least one of said plurality of tiles at a first predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from another of said plurality of tiles, and at a second predetermined fade-in rate when said cursor moves proximate said at least one of said plurality of tiles from outside a region associated with said bar.

113. The computer system of claim 112, wherein said first and second fade-in rates are different.

114. The computer system of claim 112, wherein said processor fades out said label when said cursor moves away from said at least one of said plurality of tiles.

115. The computer system of claim 114, wherein said processor uses a first fade out rate when said cursor moves into another of said at least one of said plurality of tiles.

116. The computer system of claim 115, wherein said processor uses a second fade out rate when said cursor moves out of a region associated with said bar.

117. The computer system of claim 116, wherein first and second rates are different.

118. A method for displaying representations of objects in a graphical user interface for a computer system, comprising the steps of:

displaying a plurality of icons in a row, where each icon represents an object in the computer system;

displaying a movable cursor via which the user can select individual ones of said icons;

magnifying the size of at least one of said icons as said cursor is moved into the vicinity of said one icon; and

repositioning others of the icons along said row to accommodate the magnified size of said one icon.

119. The method of claim 118 further including the step of magnifying the size of other icons in said row that are proximate said one icon.

120. The method of claim 119 wherein said other icons are magnified by a factor that is inversely related to their distances from said cursor.

121. The method of claim 120 wherein the other icons that are magnified are those which are located within a defined distance of said cursor.

122. The method of claim 121 wherein the value for said defined distance is user-determinable.

123. The method of claim 120 wherein said factor is based upon the sine function.

124. The method of claim 121 wherein each icon is displayed within a corresponding tile area having two opposite edges that are respectively located at distances d_1 and d_2 from said cursor, and said other icons are magnified by the factor

$1+(d_2'-d_1')/(d_2-d_1)$, where:

$d_1' = S \times \text{sine}(\pi/2 \times d_1/W)$ and

$d_2' = S \times \text{sine}(\pi/2 \times d_2/W)$, where

W is equal to said defined distance, and

$(S=((H-h)/2) \div \text{sine}(\pi \times (h/2) \div (W \times 2))$, where

H is a magnified size for one dimension of said one icon, and

h is a default display size for said one dimension.

125. The method of claim 124, wherein values for H and h are user-definable.

126. The method of claim 118 where the icons at the outermost ends of said row are predetermined, and the other icons in said row are user-selectable.

127. The method of claim 118 wherein said row of icons is displayed adjacent one edge of a display for said computer system.

128. A method for displaying items in a graphical user interface, comprising the steps of:

displaying a plurality of said items at a default height in a region of said graphical user interface;

detecting that a cursor is within a threshold distance from any of said plurality of items; and

increasing the height of at least one of said items closest to said cursor from said default height to a fixed maximum level upon detecting that the cursor is within said threshold distance and maintaining said height at said fixed level while said cursor is equal to or less than said threshold distance from said one item.

129. The method of claim 128 further including the step of increasing the height of other items proximate to said one item to levels less than said maximum level.

130. The method of claim 129 wherein the heights of said other icons are increased by a factor that is inversely related to their distances from said cursor.

131. The method of claim 130 wherein the other icons whose heights are increased are those which are located within a defined distance of said cursor.

132. The method of claim 131 wherein the value for said defined distance is user-determinable.

133. The method of claim 130 wherein said factor is based upon the sine function.

134. The method of claim 128 wherein said maximum height is user-selectable.

135. The method of claim 128 wherein said items are arranged in a row along one edge of the graphical user interface to form said region.

136. A method for displaying items in a graphical user interface, comprising the steps of:

displaying a plurality of user interface items along an edge of a display area in the form of a bar consisting of at least one row of said items;

detecting the positioning of a cursor within a predetermined distance from at least one of said items;

in response to said detection, magnifying the size of the item closest to said cursor to a designated level and magnifying other items proximate said closest item to levels less than said designated level; and

moving the items along said row to accommodate the magnified sizes of items so that items in the vicinity of said magnified items are not obscured.

137. The method of claim 136 wherein said other items are magnified to levels that are inversely related to their distance from said closest item.

138. The method of claim 136 wherein said user interface items are normally displayed at a default size in said bar and said designated level comprises a maximum magnified size for the items, and further including the steps of magnifying said closest item from said default size to said maximum size upon detecting that the cursor is positioned within said predetermined distance, and maintaining said closest item at said maximum size while said cursor is equal to or less than said predetermined distance from said closest item.

139. A graphical user interface for a computer that displays a plurality of user interface items along an edge of a display area in the form of a bar consisting of at least one row of said items, and that is responsive to the positioning of a cursor within a predetermined distance of at least one of said items to magnify the size of the item closest to said cursor to a designated level and magnify other items proximate said closest item to levels less than said designated level, and to move the items along said row to accommodate the magnified sizes of items so that items in the vicinity of said magnified items are not obscured.

140. The graphical user interface of claim 139 wherein said other items are magnified to levels that are inversely related to their distance from said closest item.

141. The graphical user interface of claim 139 wherein said user interface items are normally displayed at a default size in said bar and said designated level comprises a maximum magnified size for the items, and wherein said closest item is magnified from said default size to said maximum size upon detecting that the cursor is positioned within said predetermined distance, and maintained at said maximum size while said cursor is equal to or less than said predetermined distance from said closest item.